

WHAT IS CLAIMED IS:

1. A heat dissipating structure for an electronic device, comprising:

a heat source; and

5 a heat dissipating member having an inner wall, outer wall, and partition walls, wherein the inner wall directly or indirectly receives heat from the heat source, the outer wall opposes the inner wall at a distance, the partition walls connect the inner wall and the outer wall, the inner wall, outer wall and partition walls define a plurality of through-holes, the through-holes are arranged along at
10 least one of the inner wall and the outer wall, each of the through-holes extends in a vertical direction within a tilt range in which gravitational influence is utilizable, and top and bottom ends of each of the through-holes open to the outside.

2. The heat dissipating structure according to claim 1, wherein

15 the plurality of through-holes have approximately the same shape, and are lined up along at least one of the inner wall and the outer wall at regular intervals.

3. The heat dissipating structure according to claim 1, wherein

a tilt of each of the through-holes is within 60° to a plumb line.

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4. The heat dissipating structure according to claim 1, wherein

a cross-sectional shape of each of the through-holes that is orthogonal to the vertical direction is approximately the same at arbitrary vertical positions.

25 5. The heat dissipating structure according to claim 1, wherein

an optimum distance between opposing inner sides of two adjacent

partition walls is set in accordance with a linear function of vertical length of the through-holes, and

a distance between the opposing inner sides is set based upon the optimum distance.

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6. The heat dissipating structure according to claim 5, wherein

assuming the optimum distance between the opposing inner sides is w_{opt} , the vertical length of the through-hole is L , and the distance between the opposing inner sides is w , w_{opt} is set according to the following equation

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$$w_{opt} = 0.01 L + 0.005$$

and w is set within the range of

$$0.95 w_{opt} \leq w \leq 1.2 w_{opt}$$

7. The heat dissipating structure according to claim 1, further comprising:

15 a heat diffusing member, which is positioned between the heat source and the inner wall of the heat dissipating member, and is in contact with the heat source and an outer side of the inner wall.

8. The heat dissipating structure according to claim 1, wherein

20 a cross-section that is vertically orthogonal to the through-hole is approximately a square shape, and

lengths of four sides of the cross-section of the through-hole are set almost equal.

25 9. The heat dissipating structure according to claim 1, wherein

the through-holes are approximately lined up linearly.

10. The heat dissipating structure according to claim 1, wherein
the through-holes are lined up in a circle.

11. The heat dissipating structure according to claim 1, further comprising:

5 a case, which houses the heat source and the heat dissipating member,
wherein

an outer side of the outer wall of the heat diffusing member is in surface
contact with an inner side of the case.

10 12. The heat dissipating structure according to claim 1, wherein

the inner wall of the heat dissipating member defines an enclosed space,
and

the heat source is placed within the enclosed space.

15 13. The heat dissipating structure according to claim 1, wherein

an outer side of the heat dissipating member has a cooling fin.